REMARKS

In the Office Action dated October 6, 2003, the Examiner indicated that claims 19-25, 27, 29, 30, 35-39, 42, and 43, would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 19 has been rewritten in independent form incorporating the elements of claim 18 and original claim 19. Original claims 20, 21, 22, 23, 24, and 25, now depend from an amended claim 19. Claim 25 is amended herein to depend from amended claim 19. Claim 27 is amended herein to depend from amended claim 19. Claim 29 is amended herein to include the elements of original claim 28 and original claim 29, and to depend from amended claim 19. Claim 30 is amended herein to depend from amended claim 19.

Claim 35 is rewritten in independent form to include the elements of original claims 28 and 29. Original claims 36 and 37 now depend from an amended claim 35. Claims 38, 39, 42, and 43, are amended herein to depend from amended claim 35.

No new matter has been entered. Reexamination and reconsideration of the application, as amended, is respectfully requested.

Having dealt with all of the outstanding objections and/or rejections of the claims, Applicants submit that the application as amended is in condition for allowance, and an allowance at an early date is respectfully solicited. In the event there are any fee deficiencies or additional fees are payable, please charge them, or credit an overpayment, to our Deposit Account No. 502262.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on ___January 6, 2004___, at Tucson, AZ.

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18. (Presently Canceled) A method to provide failover protection in a data storage and retrieval system in the event of an accessor failure, wherein said data storage and retrieval system includes a garage, one or more portable data storage media, two or more moveable accessors, and two or more accessor controllers, wherein said two or more accessors can communicate with one another, and wherein each of said two or more accessors comprises an accessor controller and a work queue stored in that accessor controller, and wherein said two or more accessors include a first accessor and one or more remaining accessors, said method comprising the steps of:

providing a work request to each of said two or more accessors;

creating by each of said two or more accessor controllers a pending work entry comprising said work request;

adding said pending work entry to the work queue stored in each of said two or more accessor controllers;

communicating a notification from said first accessor to said one or more remaining accessors that said first accessor is initiating said pending work entry;

acknowledging said notification by each of said remaining accessors;

determining if said first accessor reports completion of said pending work entry; and

determining if said first accessor can communicate with said one or more remaining accessors.

19. (Presently Amended) ~~The method of claim 18, said method further comprising the steps of:~~ A method to provide failover protection in a data storage and retrieval system in the event of an accessor failure, wherein said data storage and retrieval system includes a garage, one or more portable data storage media, two or more moveable accessors, and two or more accessor controllers, wherein said two or more accessors can communicate with one another, and wherein each of said

two or more accessors comprises an accessor controller and a work queue stored in that accessor controller, and wherein said two or more accessors include a first accessor and one or more remaining accessors, said method comprising the steps of:

providing a work request to each of said two or more accessors;

creating by each of said two or more accessor controllers a pending work entry comprising said work request;

adding said pending work entry to the work queue stored in each of said two or more accessor controllers;

communicating a notification from said first accessor to said one or more remaining accessors that said first accessor is initiating said pending work entry;

acknowledging said notification by each of said remaining accessors;

determining if said first accessor reports completion of said pending work entry;

determining if said first accessor can communicate with said one or more remaining accessors;

determining if said first accessor has completed said pending work entry; and

determining if said first accessor has a portable data storage medium releaseably attached thereto.

20. (Original) The method of claim 19, wherein said first accessor has completed said pending work entry, and wherein said first accessor does not have a portable data storage medium releaseably attached thereto, said method further comprising the steps of:

pushing said first accessor into said garage using a second accessor, wherein said second accessor comprises one of said one or more remaining accessors;

updating the work queue disposed in each of said remaining accessors to indicate that said

pending work entry is completed; and

providing an error message.

21. (Original) The method of claim 19, wherein said pending work entry has not been completed, and wherein said first accessor does not have a data storage medium releaseably attached thereto, further comprising the steps of:

pushing said first accessor into said garage using a second accessor, wherein said second accessor comprises one of said one or more remaining accessors;

updating the work queue disposed in each of said remaining accessors to indicate that said pending work entry remains pending; and

providing an error message.

22. (Original) The method of claim 19, wherein said pending work entry has not been completed, and wherein said first accessor has a portable data storage medium releaseably attached thereto, further comprising the steps of:

pushing said first accessor into said garage using a second accessor, wherein said second accessor comprises one of said one or more remaining accessors;

extracting said portable data storage medium from said first accessor using said second accessor;

completing said pending work entry;

communicating the completion of said pending work entry to each of said one or more remaining accessors;

updating the work queue disposed in each of said one or more remaining accessors to indicate that said pending work entry is completed; and

providing an error message.

23. (Original) The method of claim 22, wherein said first accessor further comprises:

a lifting servo section;

a centering cam disposed on said lifting servo section;

a centering plunger, wherein said centering plunger has a first end and a second end, and wherein said first end extends outwardly from said lifting servo section and said second end is disposed adjacent said centering cam;

said method further comprising the steps of:

impacting said centering cam with said centering plunger; and

rotating said centering cam about 90 degrees.

24. (Presently Amended) The method of claim 18 19, wherein said pending work entry includes retrieving a designated one of said one or more portable data storage media, further comprising the steps of:

repositioning said first accessor;

attempting to retrieve said designated portable data storage medium;

determining if said designated portable data storage medium was successfully retrieved;

operative if said designated portable data storage medium was successfully retrieved, completing said pending work entry using said first accessor; and

operative if said designated portable data storage medium was not successfully retrieved, providing an error message that said designated portable data storage medium was not retrieved.

25. (Presently Amended) The method of claim 18 19, wherein said data storage and retrieval system further comprises a data storage device, and wherein pending work entry includes inserting a designated one of said one or more portable data storage media in said data storage device, said method further comprising the steps of:

repositioning said first accessor;

attempting to insert said designated portable data storage medium in said data storage device;

determining if said designated portable data storage medium was successfully inserted in said data storage device; and

operative if said designated portable data storage medium was not successfully inserted in said data storage device, providing an error message.

26. (Presently Canceled) The method of claim 18, further comprising the steps of:

detecting by said first accessor a mechanical failure;

communicating said mechanical failure to each of said remaining accessors;

moving said first accessor to said garage;

operative if said pending work entry has been completed, updating said work queue to indicate that said pending work entry is completed;

operative if said pending work entry has not been completed, updating said work queue to indicate that said pending work entry remains pending; and

providing an error message.

27. (Presently Amended) The method of claim 26 19, wherein said first accessor has a portable data storage medium releaseably attached thereto, further comprising the steps of:

extracting said data storage medium from said first accessor using one of said one or more remaining accessor;

completing said pending work entry;

updating said work queue to indicate that said pending work entry is completed; and

providing an error message.

28. (Presently Canceled) The method of claim 18, further comprising the steps of:

detecting by said first accessor a logical error;

communicating said logical error to each of said remaining accessors;

moving said first accessor to said garage;

operative if said pending work entry has been completed, updating said work queue to indicate that said pending work entry is completed;

operative if said pending work entry has not been completed, updating said work queue to indicate that said pending work entry remains pending; and

providing an error message.

29. (Presently Amended) The method of claim 28 19, wherein said first accessor has a data storage medium releaseably attached thereto, further comprising the steps of:

detecting by said first accessor a logical error;

communicating said logical error to each of said remaining accessors;

moving said first accessor to said garage;

operative if said pending work entry has been completed, updating said work queue to indicate that said pending work entry is completed;

operative if said pending work entry has not been completed, updating said work queue to indicate that said pending work entry remains pending;

extracting said data storage medium from said first accessor using one of said one or more remaining accessors;

completing said pending work entry;

updating said work queue to indicate that said pending work entry is completed; and

providing an error message.

30. (Presently Amended) The method of claim ~~18~~ 19, wherein said pending work entry comprises retrieving a designated portable data storage medium from a source location and disposing that designated portable data storage medium in a destination location, further comprising the steps of:

determining if said designated portable data storage medium is releaseably attached to said first accessor;

operative if said designated portable data storage medium is not releaseably attached to said first accessor, determining if said designated portable data storage medium is disposed in said source location;

operative if said designated portable data storage media is not releaseably attached to said first accessor, and if said designated portable data storage medium is not disposed in said source location, determining if said designated portable data storage medium is disposed in said destination location;

operative if said designated portable data storage media is not releaseably attached to said first accessor, and if said designated portable data storage medium is not disposed in said source location, and if said designated portable data storage medium is not disposed in said destination location, determining that said designated portable data storage medium is on the floor of said data storage and retrieval system; and

providing an error message to the system user.

34. (Presently Canceled) A data storage and retrieval system comprising a computer useable medium having computer readable program code disposed therein to provide failover protection in a data storage and retrieval system, wherein said data storage and retrieval system includes a garage, one or a plurality of portable data storage media, two or more moveable

accessors, two or more accessor controllers, wherein said two or more accessors can communicate with one another, wherein each of said two or more accessors comprises an accessor controller and a work queue stored in that accessor controller, and wherein said two or more accessors include a first accessor and one or more remaining accessors, the computer readable program code comprising a series of computer readable program steps to effect:

providing a work request to each of said two or more accessors;

creating by each of said two or more accessor controllers a pending work entry comprising said work request;

adding said pending work entry to the work queue stored in each of said two or more accessor controllers;

communicating a notification from said first accessor to said one or more remaining accessors that said first accessor is initiating said pending work entry;

acknowledging said notification by each of said remaining accessors;

determining if said first accessor reports completion of said pending work entry; and

determining if said first accessor can communicate with said one or more remaining accessors.

35. (Presently Amended) ~~The data storage and retrieval system of claim 34, said computer readable program code further comprising a series of computer readable program steps to effect:~~

A data storage and retrieval system comprising a computer useable medium having computer readable program code disposed therein to provide failover protection in a data storage and retrieval system, wherein said data storage and retrieval system includes a garage, one or a plurality of portable data storage media, two or more moveable accessors, two or more accessor controllers, wherein said two or more accessors can communicate with one another, wherein each of

said two or more accessors comprises an accessor controller and a work queue stored in that accessor controller, and wherein said two or more accessors include a first accessor and one or more remaining accessors, the computer readable program code comprising a series of computer readable program steps to effect:

providing a work request to each of said two or more accessors;

creating by each of said two or more accessor controllers a pending work entry comprising said work request;

adding said pending work entry to the work queue stored in each of said two or more accessor controllers;

communicating a notification from said first accessor to said one or more remaining accessors that said first accessor is initiating said pending work entry;

acknowledging said notification by each of said remaining accessors;

determining if said first accessor reports completion of said pending work entry; and

determining if said first accessor can communicate with said one or more remaining accessors;

determining if said first accessor has completed said pending work entry; and

determining if said first accessor has a portable data storage medium releaseably attached thereto.

36. (Original) The data storage and retrieval system of claim 35, said computer readable program code further comprising a series of computer readable program steps to effect:

pushing said first accessor into said garage;

updating the work queue disposed in each of said remaining accessors to indicate the status of said pending work entry; and

providing an error message.

37. (Original) The data storage and retrieval system of claim 36, said computer readable program code further comprising a series of computer readable program steps to effect:

extracting said portable data storage medium from said first accessor using one of said one or more remaining accessors;

completing said pending work entry;

communicating the completion of said pending work entry to each of said remaining accessors;

updating the work queue disposed in each of said one or more remaining accessors to indicate that said pending work entry is completed; and

providing an error message.

38. (Presently Amended) The data storage and retrieval system of claim 34 35, wherein said pending work entry includes retrieving a designated one of said one or a plurality of data storage media, said computer readable program code further comprising a series of computer readable program steps to effect:

repositioning said first accessor;

attempting to retrieve said designated portable data storage medium;

determining if said designated portable data storage medium was successfully retrieved;

operative if said designated portable data storage medium was successfully retrieved, completing said pending work entry using said first accessor; and

operative if said designated portable data storage medium was not successfully retrieved, providing an error message that said designated portable data storage medium was not retrieved.

39. (Presently Amended) The data storage and retrieval system of claim 34 35, wherein

said data storage and retrieval system further comprises a data storage device, and wherein pending work entry includes inserting a designated one of said one or a plurality of data storage media in said data storage device, said computer readable program code further comprising a series of computer readable program steps to effect:

repositioning said first accessor;

attempting to insert said designated portable data storage medium in said data storage device;

determining if said designated portable data storage medium was successfully inserted; and

operative if said designated portable data storage medium was not successfully inserted, providing an error message.

40. (Presently Canceled) The data storage and retrieval system of claim 34, said computer readable program code further comprising a series of computer readable program steps to effect:

detecting by said first accessor a mechanical failure;

communicating said mechanical failure to each of said one or more remaining accessors;

moving said first accessor to said garage;

updating said work queue to indicate the status of said pending work entry pending work entry; and

providing an error message.

41. (Presently Canceled) The data storage and retrieval system of claim 34, said computer readable program code further comprising a series of computer readable program steps to effect:

detecting by said first accessor a logical error;

communicating said logical error to each of said remaining accessors;

moving said first accessor to said garage;

updating said work queue to indicate that said pending work entry remains pending; and

providing an error message.

42. (Presently Amended) The data storage and retrieval system of claim ~~34~~ 35, wherein said first accessor further comprises:

a lifting servo section;

a centering cam disposed on said lifting servo section;

a centering plunger, wherein said centering plunger has a first end and a second end, and wherein said first end extends outwardly from said lifting servo section and said second end is disposed adjacent said centering cam;

wherein said computer readable program code further comprises a series of computer readable steps to effect causing said centering cam to impact said centering plunger.

43. (Presently Amended) The data storage and retrieval system of claim ~~34~~ 35, wherein said pending work entry comprises retrieving a designated portable data storage medium from a source location and disposing that designated portable data storage medium in a destination location, wherein said computer readable program code further comprises a series of computer readable steps to effect:

determining if said designated portable data storage medium is releaseably attached to said first accessor;

operative if said designated portable data storage medium is not releaseably attached to said first accessor, determining if said designated portable data storage medium is disposed in said source location;

operative if said designated portable data storage media is not releaseably attached to said first accessor and if said designated portable data storage medium is not disposed in said source

location, determining if said designated portable data storage medium is disposed in said destination location;

operative if said designated portable data storage media is not releaseably attached to said first accessor and if said designated portable data storage medium is not disposed in said source location and if said designated portable data storage medium is not disposed in said destination location, determining that said designated portable data storage medium is on the floor of said data storage and retrieval system; and

providing an error message to the system user.